O-2021

INTREPRET EMERGENCY SIGNALS AND DEMONSTRATE AIR/GROUND TEAM COORDINATION

CONDITIONS

You are a Mission Scanner trainee and must interpret emergency signals and demonstrate how to coordinate with ground teams.

OBJECTIVES

Interpret emergency signals and demonstrate and discuss air and ground team coordination plans and techniques.

TRAINING AND EVALUATION

Training Outline

1. As a Mission Scanner trainee, the ability to interpret emergency signals plus the ability to coordinate with ground teams is essential.

2. While you are on a mission, nonverbal signals may be the only available method of communication (e.g., with a crash survivor or with ground units). Scanners have to interpret these nonverbal messages and must be able to do so accurately regardless of the method used. [Note: You are not required to have these signals memorized, but should be familiar with their use. These tables and figures should be carried in each CAP aircraft; see Attachment 2 of the *Mission Aircrew Reference Text* for examples.]

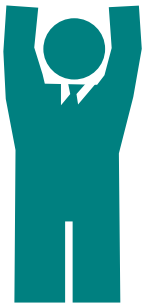
Light gun signals. If the radio in your aircraft fails, it is still very important for you to follow instructions from the tower at a controlled airport. In this case, you may have to rely on light gun signals from the control tower in order to receive the necessary landing and taxi clearances previously described. These clearance requirements still apply despite an inoperative radio. The table shows each light gun signal, followed by its meaning.

Color and Type of Signal	On the Ground	In Flight
Steady Green	Cleared for takeoff	Cleared to land
Flashing Green	Cleared to taxi	Return for landing
Steady Red	Stop	Give way to other aircraft and continue circling
Flashing Red	Taxi clear of runway area	Airport unsafe—Do not land
Flashing White	Return to starting place on airport	Not applicable
Alternating Red and Green	General warning — exercise extreme caution	

Body signals. The use of the body is one of the most common means of sending messages. These signals are called "body signals" since they involve the whole body, not just arm movements. They are easy to use because no special materials are needed.

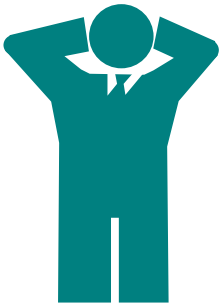
Wave Both arms across face

DO NOT ATTEMPT TO LAND



Both arms held over head

PICK UP - PLANE IS ABANDONED



Cup hands over ears

OUR RECEIVER IS WORKING

Lie flat on back with hands above head

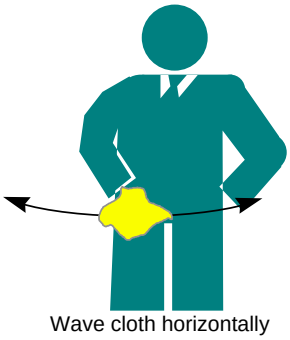
NEED MEDICAL ASSISTANCE

Both arms horizontal

NEED MECHANIC HELP or PARTS

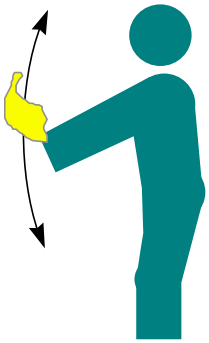
Wave one arm over head

ALL OK - DO NOT WAIT



Wave cloth horizontally

NEGATIVE – NO



Wave cloth vertically

AFFIRMATIVE – YES

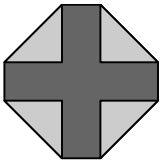
Both arms pointing in the direction of landing while squatting

LAND IN THIS DIRECTION

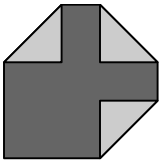
One arm horizontal

WAIT IF PRACTICAL

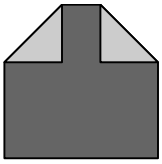
A "Paulin" is a short form of tarpaulin, which means waterproof canvas. If the victims of an accident are fortunate enough to have some paulin material, they may be able to aid the rescuers greatly by sending signals with it. If the paulins are laid in clear areas wherein their colors cause high contrasts, they can be seen from substantial distances.



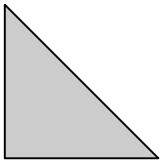
Need Medical Assistance



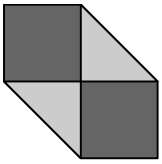
Need First Aid Supplies



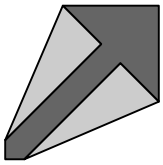
Need Warm Clothing



Need Food and Water



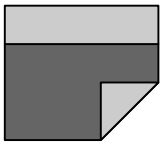
Do Not Attempt Landing



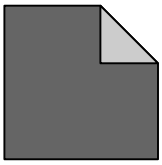
Proceeded in this Direction

Should We Wait for a Rescue Plane?

Indicate Direction of Nearest Habitation

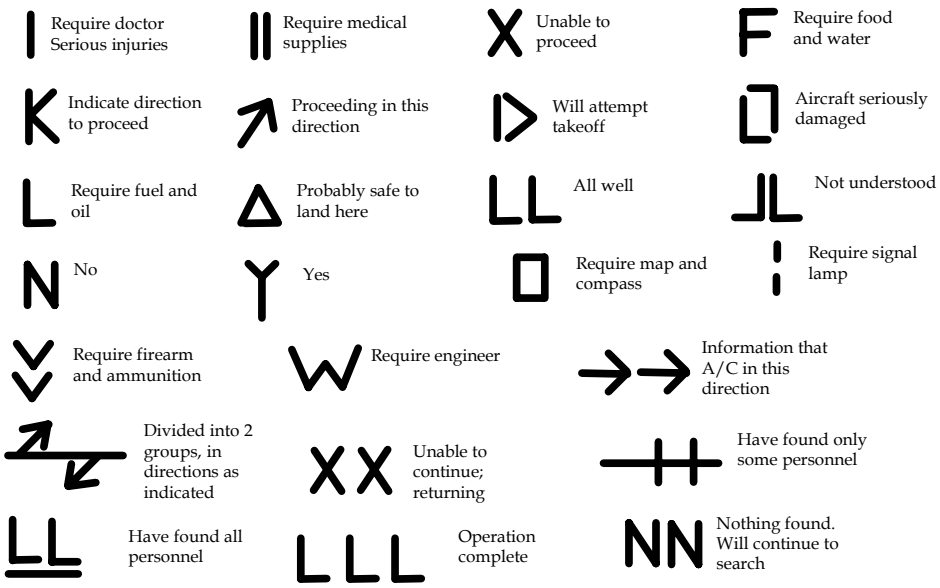


Abandoned Plane-Walking in This Direction



Need Gas and Oil

The standard emergency distress signals shown below may be constructed using strips of fabric, pieces of wood, stones, wreckage parts, or any other available material. Each letter should be two to three feet wide and six to twelve feet long, with colors that contrast with the background, if possible.



3. Coordinating with ground teams. Naturally, the best means of working with a ground team is to use the radio. As a scanner you should continuously have your eyes on the ground team; this frees the pilot to fly the aircraft and allows the observer to work the radio to execute the coordination. The observer will likely also have to be the one who keeps track of where you "left" your target. Sometimes you may be the one using the radio.

a. It is important to understand that you have the advantage of perspective; the long-range visibility that is inherent to flying is absent from the ground. You can see over the hills, trees, and other obstacles that are blocking the ground team member's sight, so you may have to explain the situation to the ground pounder in painstaking detail.
b. Another perspective problem is time: time seems to pass very slowly while waiting for a ground team, and it is easy to get impatient and leave station prematurely.
c. Sometimes the ground team member (non-CAP, of course) may not understand radio jargon, so use plain English. For example, if you wanted a ground team to take a left at the next intersection, what would you say? How about "Ground Team 1, CAP Flight 4239, turn left at the next intersection, over." Most often the plain English answer is the correct way to say it in radioese, anyway.

4. It is important to brief the mission with the ground team, if possible, and at least agree on communications frequencies and lost-comm procedures, maps/charts to be used by *both* teams, determine what vehicle the ground team is driving (e.g., type, color, and any markings), determine what the ground team members are wearing (highly visible vests are preferred), and a rendezvous point and time window for rendezvous (+/- 15 minutes). One tried-and-true method is to rendezvous at a landmark that both the aircrew and the ground team can *easily* identify. A common rendezvous point is an intersection of prominent roads; these are easily identifiable by both the aircrew and ground team. The rendezvous location should be set up before you leave.

5. Also, ground teams that have a hand-held GPS can radio their latitude and longitude coordinates to you and say, "Come and get me!" If you are unable to loiter over the target and bring the ground team to it, you can simply radio the coordinates to the ground team and let them navigate to it on their own. This is not nearly as efficient, however, as when you lead them to it. Note that two pieces of technology have to be working properly to make this work: 1) both air and ground operators need to be proficient with their GPS units and 2) two-way radio communication must be established and maintained.

6. It is important to plan for a loss of communications during the briefing. The teams should agree on pre-arranged signals such as: stopping the vehicle means lost comm; blinking headlights indicate the message has been received; and operating the flashers means the message hasn't been received. The pilot has some techniques that can be used to guide a ground team during lost communications.

Additional Information

More detailed information on this topic is available in Chapter 4 of the MART.

Evaluation Preparation

Setup: Provide the trainee with an aircrew and ground team.

Brief Student: You are a Scanner trainee asked to interpret emergency signals and coordinate with ground units.

Evaluation

Performance measures	Results	
1. Interpret the following emergency signals (may be performed on the ground):		
a. Light gun signals	P	F
b. Body signals	P	F
c. Paulin signals	P	F
d. Distress signals	P	F
1. Discuss scanner responsibilities during a combined air/ground team mission.	P	F
2. Discuss factors to consider before you or the ground team leaves mission base.	P	F
3. Demonstrate basic ground team coordination.	P	F

Student must receive a pass on all performance measures to qualify in this task. If the individual fails any measure, show what was done wrong and how to do it correctly.